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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,373	10/22/2001	Harald Berger	003015.098149	7250
29540	7590	05/16/2005	EXAMINER	
PITNEY HARDIN LLP			ANDREWS, MELVYN J	
7 TIMES SQUARE			ART UNIT	
NEW YORK, NY 10036-7311			PAPER NUMBER	
			1742	
DATE MAILED: 05/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/021,373	Applicant(s) BERGER ET AL	
	Examiner Melvyn J. Andrews	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

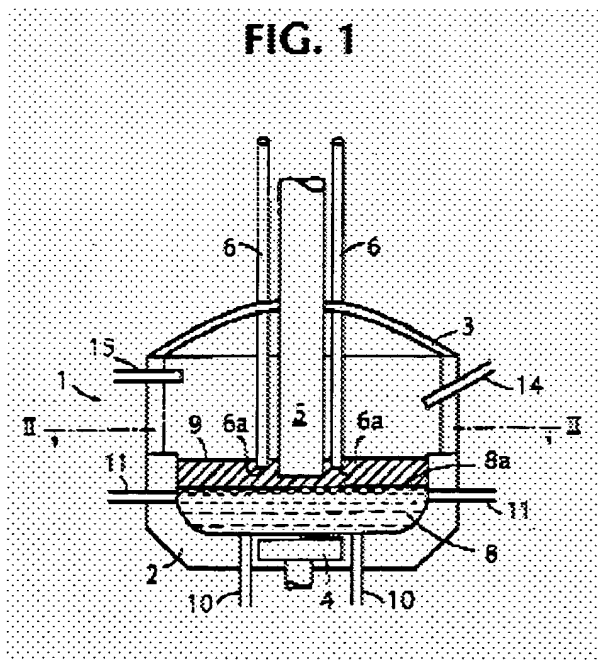
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DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 16 to 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eichberger et al (US 6,524,362) in view of Dimitrov et al (US 6,241,798) and Merriam-Webster's Collegiate Dictionary page 802. Eichberger et al discloses a method of melting fine grained direct reduced iron in an electric furnace using three hollow lances (6) in combination with an electrode (5) as shown in FIG.1 but does not disclose electric arcs obliquely directed toward the metal melt.



It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the electric arcs obliquely against the metal melt , likewise, and arrangement of the electric arcs around a central region is conventional as

evidenced by Dimitrov et al even though Dimitrov et al does not explicitly recite the word **obliquely** because the electric arc furnace vessel comprises electrodes 16 are mounted to be pivotable (col.4, lines 13 to 19) which as shown in Fig 1 are **inclined** which is another word for **obliquely** as defined by Merriam-Webster's Collegiate Dictionary.

With respect to Claims 24 and 32 Eichberger et al discloses that the DRI falls by gravity (see Abstract).

Response to Arguments

Applicant's arguments filed February 8, 2005 have been fully considered but they are not persuasive. Applicants' opinion that the Dimotrov et al electrodes 16 are not well taken since they are not perpendicular or parallel to the base of the furnace but are directed **obliquely** (as defined by Merriam-Webster's Collegiate Dictionary page 802).

Claims 16 to 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al (US 5,835,524) in view of Lindholm (US 3,307,935). Berger et al discloses a scrap-melting electric arc furnace comprising electrodes directed obliquely (see Abstract) and discloses that sponge iron can enter by the aid of gravity (col.9, lines 19 to 24) but does not explicitly recite "exclusively by gravity" but Linholm discloses a method of producing steel using scrap imparting rapid movements to preheated material said movements **"being exclusively imparted by gravity"** it would have been obvious to one of ordinary skill in the art at the time the invention was made to likewise impart movement which is **"being exclusively imparted by gravity"** to the Berger et al scrap since scrap melting is occurring in both cases .

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is (571)272-1239. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MELVYN ANDREWS
PRIMARY EXAMINER

MJA
May 6, 2005